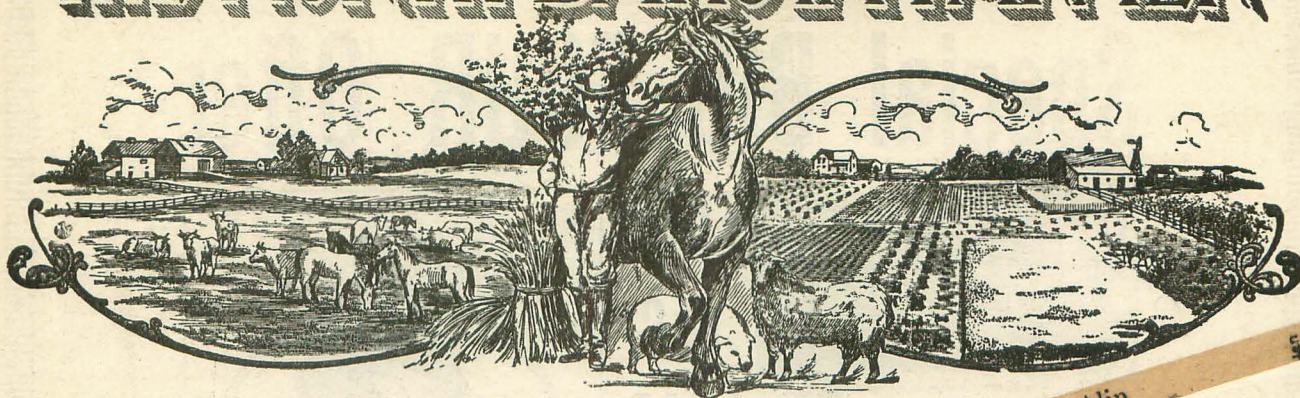


THE NORTH DAKOTA FARMER



"THE NORTH DAKOTA FARMER FOR NORTH DAKOTA FARMERS"

Alex Alin

517

Vol. 16, No. 6

Lisbon, North Dakota, December 15, 1914

50 Cents A Year



WALTER GRANLUND

Delamere, N. D.

98.8 Bushels - 100% Mature

The Ransom County Boy who won First Prize in the Southern Section and Sweepstakes Prize in the State Acre-Yield Corn Growing Contest for 1914. Walter is vice-president of the Boys' and Girls' Institute.

Nearly 700 boys entered the contest. While the average yield for the state was but 28 bushels, these boys had an average yield of 66.5 bushels, a grand object lesson for the parents.

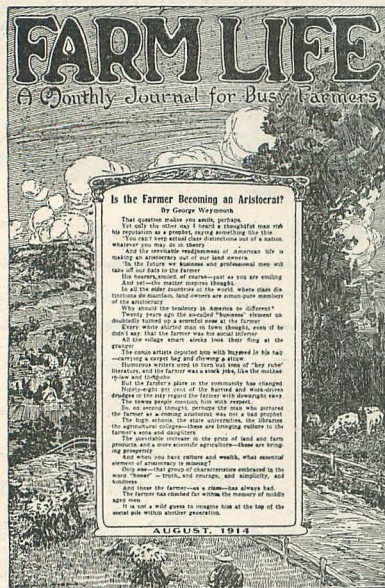
One feature of the contest to be commended is that nearly every boy used home-grown seed. In fact, the variety raised by the winners of both the 1913 and 1914 contests has been carefully selected for years on their farm.

The pioneers of the 80's little dreamed that the yield of corn in 1914 would be over 13 million bushels. Watch the corn crop of North Dakota.

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North Dakota Farmer
Lisbon, - - - North Dakota

THE NORTH DAKOTA FARMER

Vol. 16, No. 6

LISBON N. D., DECEMBER 15, 1914

50 Cents a Year

Deep Plowing

By J. H. Worst, Agricultural College, North Dakota

Whether deep or shallow plowing is the better practice to follow with regularity is still a mooted question. One man plows about four inches deep and gets better crops than his neighbor who plows seven to nine inches deep. Taking the difference of power necessary to plow seven inches deep as compared with plowing only four inches deep, and the poorer crop in addition, one would naturally conclude that wisdom and economy are both on the side of shallow plowing. Another man plows his land deep, packs the furrow slice firmly down upon the subsoil and gives the soil plenty of surface cultivation and seldom fails to get a good crop. In fact his yields are always larger, much surer, and of superior quality. Why this difference?

The fact that different results are obtained by different farmers of about the same caliber and on similar soils makes the question of deep versus shallow plowing a rather perplexing question.

The writer favors deep plowing tho there doubtless are soil conditions and seasons that favor shallow plowing. Taking the experience of many farmers under widely varying conditions, however, and better results obtained by shallow plowing seem to be the exception. This being true, the safe rule would be to follow that system which, all things considered, averages best. It requires more work to plow deep, but Nature seems always to reward the farmer just about in proportion to the work he is willing to do.

There are several reasons for deep plowing, any one of which would seem a sufficient argument in its favor. In a country where the precipitation is below twenty inches, and yet where one-fifth of that twenty inches occasionally falls within a few hours, a tremendous amount of water is lost in the "run off." This is sheer waste, yet it is bound to occur in proportion to the shallowness of the plowing.

Land plowed deep will take care of a much larger quantity of water when the downpour is tremendous, as it often is, and not infrequently that extra water stored in the soil on account of deep plowing is sufficient to make the crop. Important as water is in a semi-arid country manifestly every means should be used to conserve it to the utmost.

There are periods during almost every growing season when the showers fail. That is, there are intervals between showers of such length that the surface soil completely dries out. The crop suffers immediately under such conditions, and unless moisture is supplied at once the crop will be greatly injured or totally ruined. In some countries water is supplied by means of irrigation, in others prayers are resorted to, for rain. The farmer who plows deep and gives attention to the principles of moisture conservation, such as keeping his land manured, weeds destroyed, a granulated mulch where practicable, etc., does not have to resort to either expedient, but having wisely stored up sufficient moisture deep in the subsoil is sure that when the clouds fail to give down their moisture the subsoil will give it up. The physical law that demands for the growing wheat a regular supply of moisture every hour of its growth, is thus obeyed, by human foresight, and a moisture supply is not left to blind and uncertain chance. Where the land is gently sloping, it will even pay to raise shallow dykes around the farm to hold the water as near as possible where it falls.

Water is the key to agricultural success in North Dakota. Let no man think otherwise. And there is little to spare. The conservation of moisture is our greatest problem. Millions of dollars are lost every year for the sole reason that anywhere from one to three inches of moisture was needed, but not available, at a critical period. And yet for want of a dragging or

two or a discing at the right time, the farmer looked on while sun and wind took out half an inch or more of water every day while the growing weeds appropriated a like quantity. After weeks or days of water wasting such as described, most of which with a little labor could have been conserved, then comes the critical week or two with neither clouds above nor moisture below—and the harvest is lost.

Where farmers persist in growing small grains rather exclusively, one of the best methods that can be employed for conserving moisture is to disc the ground thoroly immediately behind the binder. This tends to kill the small weeds that otherwise would suck out the remaining moisture very rapidly. The disc also creates a granulated mulch that prevents evaporation, and at the same time grinds the stubble and surface soil together so that when turned over by the plow later, the furrow slice forms an almost perfect contact with the subsoil. If, on the other hand, the weeds are permitted to grow they exhaust the moisture from the top soil, leaving it so hard and dry that it becomes difficult to plow more than four inches deep. Moreover, the stubble and weeds turned under form a packing that so thoroly insulates the furrow slice from the subsoil that the contact is not complete, with the result that during most seasons the trash thus turned under does not decompose. Under such conditions to make a good seed bed is almost impossible.

If, however, the discing is done as heretofore indicated, the surface mulch formed by the disc will prevent excessive evaporation. At the same time moisture will collect below the disturbed surface, usually to such an extent that the plow can be put down seven or eight inches deep with as much ease as otherwise for four inches, and instead of turning over hard lumps, the soil will be moist and friable.

I am aware that the chief objection to this practice is shortage of team force and farm help during the harvest season. However, the fact remains that it should be done. It is even a question whether a farmer can afford not to do it; whether it would not be more profitable to farm that much less land and give what is farmed this additional cultivation. I am confident that discing behind the binder, taking it one year with another, will pay a big dividend on the extra work required.

Deep plowing has another advantage. Bacteria play a most important part in the soil,—that of making plant food available for the growing crops. As their work is chiefly confined to that portion of the soil turned by the plow, whether the plants have a large or small feeding place depends upon the depth of the plowing. In other words plant food is confined almost exclusively to the furrow slice. If the ground is plowed four inches deep, there is less than three inches of feeding ground for the roots, since the top inch or so is usually too dry to play any important part in nourishing the plant. Where the ground is plowed eight inches deep the feeding space is about four times as great as where plowed from three and a half to four inches deep.

It will thus be seen that deep plowing not only conserves more moisture, but permits bacterial activity to range down to greater depth, giving the plants several times more feeding space than where their activity is confined near the surface.

It is true that plant roots penetrate to a much greater depth than what the ground is plowed, but below the furrow slice roots get but little substance, except moisture.

I am satisfied, therefore, from personal observation and experience and from the testimony of many others that for most North Dakota soils and under most conditions, it is best to plow deep,—averaging not less than six or seven inches. Many soils would produce better if once in a long while they were stirred fifteen or more inches deep,—subsoiled. Where deep plowing is practiced, and especially where plowed very deep, the subsurface packing should be most complete. However, where there is little or no trash turned under and the ground is moist and mellow and the plowing is done reasonably early, the ground will tend to settle down firmly by its own weight. Otherwise, it should be thoroly subsurface packed, either with an implement made for that purpose or with a disk set straight and well weighted.

Successful Alfalfa Farm In Southern Wisconsin

J. C. McDowell, formerly of the N. D. A. C.

From the standpoint of labor income, as well as total income, one of the successful farms studied this year is a well-equipped corn, alfalfa, and sheep farm in southern Wisconsin. While this farm contains 527 acres, a large part of it is hilly and stony or so low and wet as to be of use for grazing purposes only. Two hundred sixty-six acres have been cleared and brought under cultivation. The tillable area is a moderately rich loam soil. After deducting insurance, taxes, and all other expenses connected with running the farm, after omitting all table and other farm supplies furnished directly from the farm, and after allowing 5% interest on the total investment, including personal property and real estate, a survey of this farm shows an annual labor income of \$3,961.

In 1913 the farm produced 32 acres of corn, 1 acre of potatoes, 38 acres of oats, 25 acres of barley, 20 acres of timothy, and 150 acres of alfalfa.

As rapidly as possible the following rotation is being adopted: corn, 1 year; oats, 1 year; alfalfa, 6 years. This year the acreage of alfalfa has been increased to 170.

Four men and 10 horses are required to do the work. While the labor distribution is not as yet fully worked out, the owner of the farm states that the harvesting and handling of alfalfa hay keeps men and horses uniformly busy during the greater part of the year. About 600 head of lambs are fed and fattened each winter. This, with the bailing and marketing of alfalfa hay, provides profitable winter work. By far the largest single item of income is derived from the sale of alfalfa hay. The average yield is about four tons per acre this year, and the average price over a series of years has been only a little less than \$15 per ton.

Soil fertility is maintained by the application of manure and phosphate fertilizers and the soil is kept sweet by

the use of lime. The farm is managed with economy and efficiency. An unsatisfactory stand of alfalfa is not permitted to occupy the land. Farm machinery is always kept in prime condition. Each enterprise is on a large enough scale to permit a full equipment of machinery for doing each type of work. Lambs for feeding are purchased in the West by a shrewd buyer at lowest possible prices and are skilfully sold on the Chicago market. As soon as the western sheep arrive all that are salable are sorted out and sent to market. These yield a profit at practically no expense for feed.

Many of our surveys have shown low labor income from sheep feeding, yet the feeding of sheep appears to be successful when conditions are right. The size of the farm, the large amount of low-priced grazing land, and the business ability of the farmer are evidently the factors that make it practicable to keep sheep on this farm.

CONCRETE CHIMNEYS

An examination of fire statistics would show that defective flues are the cause of a great majority of the fires that occur in dwellings. It is an old saying among architects that money put into a thoroly good chimney is never wasted. So far as safety from fire is concerned, the chimney is the most important structural feature of a building. But almost countless fires have shown that careless workmanship, and in some cases bad design, in chimney construction prevail to an alarming extent.

A properly constructed chimney should be a seamless monolith, and in recognition of this fact builders are now using concrete. Concrete chimneys are poured in a plastic state and harden into so much solid stone. They have no joints, and sparks or burning soot cannot come into contact with surrounding woodwork.

How Concrete Chimneys are Built

Small concrete chimneys can be constructed in two ways. An outer and inner wooden form, between which the concrete is poured, can be used, or the inner form may consist of a clay or concrete tile, either round or square in section. Where the tiles may be procured easily, it is a more simple operation to use them for the inner form.

Foundation

All chimneys, regardless of size, should have good foundations. If the chimney is not carried down to the depth of the cellar, it should have the foundations at least below frost line. For ordinary conditions a depth of three feet below ground level will

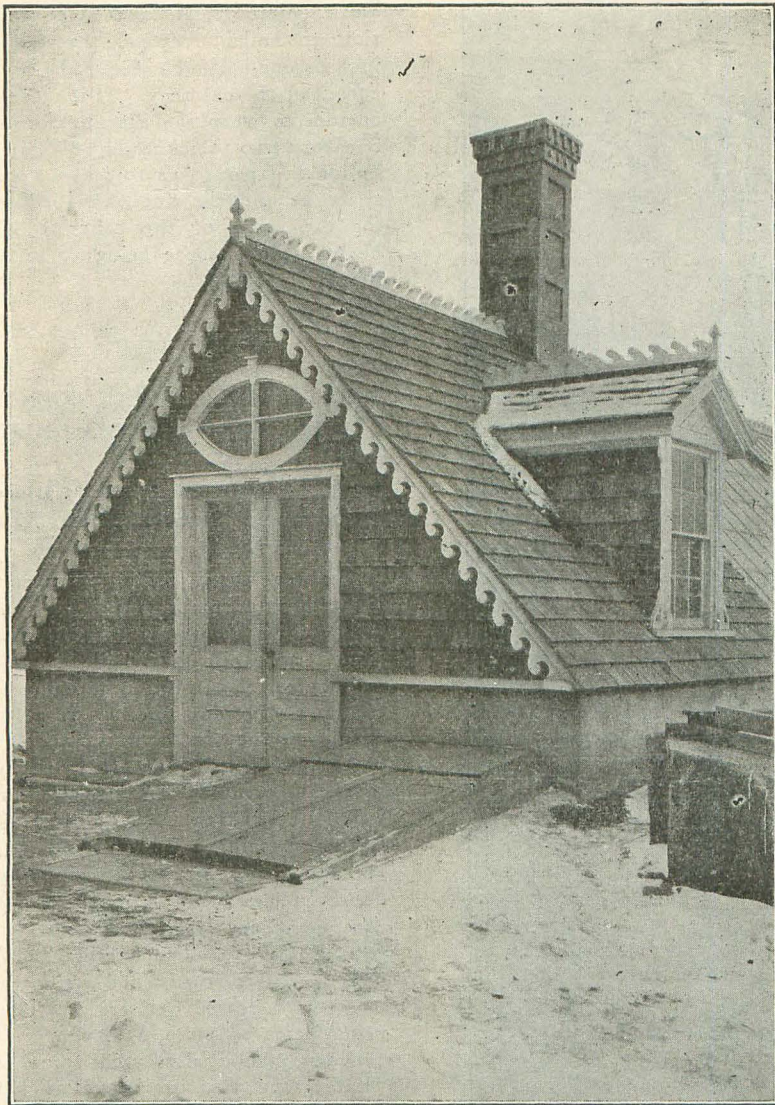


Fig. 1.—A concrete chimney in ornamental design.

suffice. The foundation consists of a concrete slab 12 or 18 inches thick and 9 inches larger on every side than the outside dimensions of the chimney. Where the house is constructed with concrete walls, the chimney is cast as an integral part of the walls, and, consequently, needs no separate foundation.

Forms

The forms necessary are simple and easily made. Fig. 2 illustrates the method of constructing forms and the manner in which they are held secure-

ly together. In this illustration will be seen the two flues which constitute the inner form. To make the depositing of the concrete and the placing of flues an easy matter, forms are built up as the work progresses. Where the chimney is hidden by interior plaster and the walls of the building, only rough forms are required, such as are shown in Fig. 2. When roof level is reached more attention must be given to the forms in order to secure a smooth and even surface. Therefore see that the boards form tight joints

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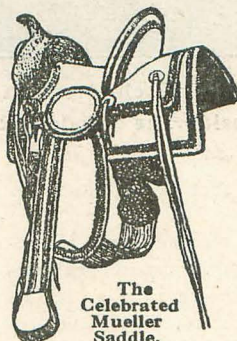
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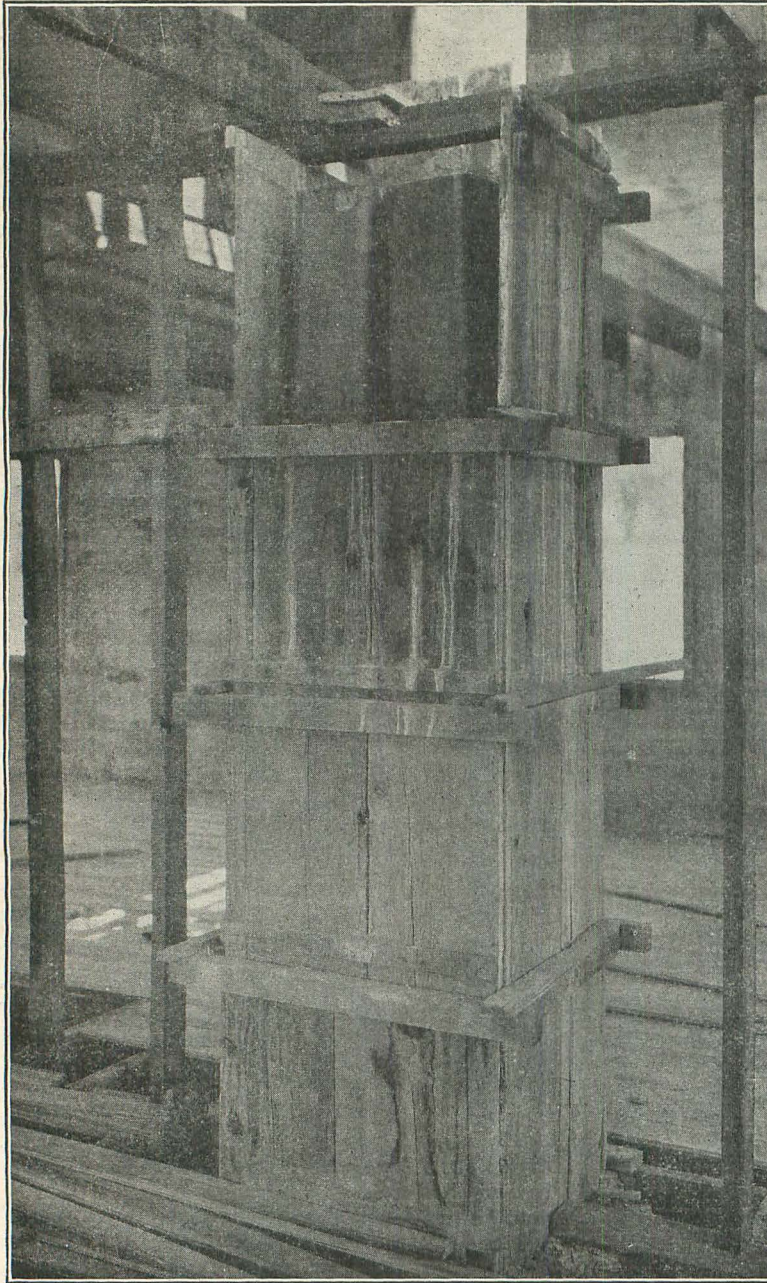


Fig. 2.—A concrete chimney in process of construction. The flue lining inside the wooden forms serves as the inner form.

and that each section of form is properly aligned.

If desired the chimney can be relieved with a simple ornamental design, such as is shown in Fig. 1. In providing for this it should be remembered that the ornamentation must be placed on the inside of the outer form and that the design will be reversed on the surface of the chimney.

Concrete and Reinforcement

Concrete for this work is proportioned 1 part Portland cement to 2 parts sand to 4 parts crushed stone or gravel. In mixing the concrete it is convenient to remember that 1 bag of portland cement is equivalent to 1

cubic foot, so that the proportion can be stated as 1 bag of Portland cement to 2 cubic feet of sand to 4 cubic feet of stone. A bottomless measuring box of 2 cubic feet capacity is convenient in measuring the materials. The concrete is mixed mushy wet and well tamped and spaded into the forms.

While not absolutely necessary for small chimneys, it is a wise precaution to embed vertical three-eighth-inch or one-half-inch steel rods in each corner of the chimney. It is often the custom to wrap the tile flue forms in one or two thicknesses of tar or building paper so as to leave a small space around the flues, thus allowing for expansion of the concrete when heated, the purpose being to prevent it from cracking.

WHAT THE SOCIAL CENTER DOES FOR A COMMUNITY

W. J. Trimble, Professor of History and Social Science, N. D. A. C.

The real social center provides for relaxation and amusement.

Beyond a doubt young people need some fun—and they will have it. It is better that this fun be had under community leadership than that it be sought in the pool halls and “joints” of the towns. The social center provides opportunity for healthful and well directed fun. There are rooms for games and for social gatherings—in some places for neighborhood dances. There are playgrounds and equipment for athletic sports—baseball, tennis, etc. Our average country boy or girl is sturdy and strong, but in many cases clumsy. Athletics bring alertness, poise, agility.

Older people also need some fun. That is the way to keep from being old. The social center should have a **young** atmosphere. There is a good deal of strain in raising and saving crops, and we need some way of throwing it off. A place where we can resort for a game of some sort or for a quiet chat will help to avoid heart disease and lengthen life.

The social center will provide for means of more serious relaxation and for instruction. It will give a place for lectures, debates, etc., and for seeing one of the greatest educational features in our modern world—moving pictures. Moreover, it is the natural place of meeting for the clubs, the Grange, and other organizations which are transforming country life.

The social center ought to help to better community business methods.



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In particular it should help towards community methods of marketing crops. At present a whole lot of us market our crops in a haphazard manner. The individual has little show today in dealing with organized business. If he sells in less than carload lots, he takes what the other man wants to give; if he alone tries to ship a carload, he often gets plucked. Back of the individual should be an organized community—a community which may have its paid business secretary at the social center.

A social center, in fact, helps to **make** a community. A number of people living in the same neighborhood do not necessarily form a community. They may have, and often do have, so much of jealousy, bitterness, and downright hatred as to make community feeling and action impossible.

The social center is the get-together-place where people learn the greatest art of our modern world—how rightly to live and work as citizens of a **community**.

PROGRAM OF THE 16TH ANNUAL TRI-STATE GRAIN AND STOCK GROWERS' CONVENTION, FARGO, JANUARY 19-22 AT THE NEW AUDITORIUM.

Tuesday, January 19

10:00 A. M.

Music

Prayer—Rev. E. C. Ford, Pastor
Plymouth Congregational Church,
Fargo.

Music

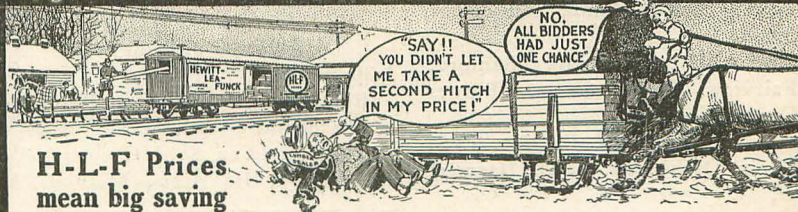
Address of Welcome—J. P. Hardy,
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Appointment of Committees

Cutting the Size of our North Dakota Farm—O. B. Westly, Coop-
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1:30 P. M.

Farm Labor Problem—Professor J. H. Shepperd, Agricultural College
How to Build up a Profitable Dairy Herd—Colonel R. A. Wilkinson, Lake Elmo, Minn. (livestock breeder)

Farm Livestock—Frank Sanford, Fairview Stock Farm, Barnes County (farmer)

Weeds and Their Eradication, J. S. Gogin, Osnabrock, N. D., (farmer)

7:30 P. M.

Earning and Learning at the Same Time, (Stereopticon Lecture)—A. P. Hollis, Agricultural College.

What We Owe Our Girls—Miss Julia O. Newton, Agricultural College, Extension Department.

Some Applications of the Principles of Plant Disease to Methods in Agriculture—H. L. Bolley, Agricultural College.

Wednesday, January 20

9:30 A. M.

Marketing and Rural Credit Problems in American Farming—Charles J. Brand, Chief, Office of Markets and Rural Organization, United States Department of Agriculture, Washington, D. C.

Address—President Perisho, Agricultural College, Brookings, S. D.

1:30 P. M.

Increased Grain Production by Practical Tree Culture—Fred W. Smith, President School of Forestry, Bottineau, N. D.

Alfalfa Production as an Economic Asset for North Dakota—L. R. Waldron, Superintendent Sub-Station, Dickinson, N. D.

Fattening Meat Producing Animals—W. H. Peters, Animal Husbandman, North Dakota Experiment Station.

7:30-8:30 P. M.

Economic Value of Poultry Raising—A. C. Smith, University of Minnesota.

The Big Business of Housekeeping—Mrs. G. W. Randlett, Fargo
Annual Address—J. H. Worst, President of the Convention.

Thursday, January 21

1:30 P. M.

Potatoes, C. E. Brown (farmer)
Extension Department, University of Minnesota

The Financial Problem of Agriculture—President F. L. McVey, University of North Dakota.

Corn the Basis of Prosperity in North Dakota Farming—Thomas Cooper, Director North Dakota Experiment Station.

Address—M. D. Munn, St. Paul, Minn.

7:30 P. M.

Double the Value and Production of Every North Dakota Farm by

Complete Conservation of the Rainfall—Colonel Freeman Thorpe Hubert, Minn., (farmer)

Wherein Farmers as a Class Fail—Hon. Treadwell Twichell, Mapleton, N. D., (farmer).

Friday, January 22

1:30 P. M.

Report of Committee on Resolutions
Miscellaneous Business

The Canadian Seed Growers' Association, Its Aims, Methods, and

Results—W. C. McKillican, Superintendent Dominion Experimental Farm, Brandon, Manitoba.

Immigration—Hon. J. S. Murphy, Minot, N. D., (farmer).

Women's Auxiliary

Mrs. A. A. Divine, Mapleton, Pres.

Mrs. J. H. Shepperd, Fargo, Secretary
Little Country Theater, Agricultural College, Fargo, Wednesday afternoon, January 20th at 1:30.

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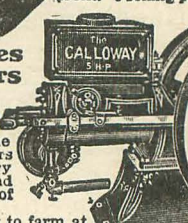


You say cash is not always handy. You need a Cream Separator, Gas Engine, Manure Spreader or other farm equipment but you don't want to borrow. So you buy on credit where you can and pay fancy prices. That's now unnecessary. I have added a credit plan. It gives you the opportunity to buy on credit at factory to farm prices, on the basis of one small manufacturer's profit. 5 selling plans to pick from.

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That means the Galloway method of buying from factory to farm at low prices. I save you money at every turn of the road.

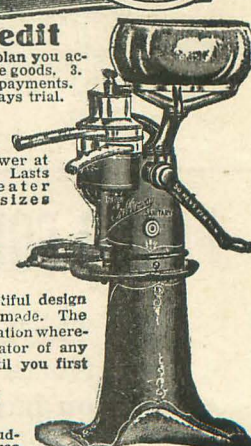


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cleanest skimming, most beautiful design of any cream separator ever made. The New Galloway is causing a sensation wherever seen. Don't buy a separator of any make or kind at any price until you first get our proposition.

Small Payment Down Buys This Manure Spreader, Balance Monthly

Low down, easy to load, light draft, only two horses. Eleven patents including famous irresistible roller feed. Steel endless apron with automatic force feed or push board. Mandrel steel trucks. Spreads 4 to 25 loads per acre. Saves you \$25 to \$50. Thirty days' free trial. Conceded by men who know to be the best manure spreader value ever offered in the history of this country. You can put your horses on full gallop, slam it in gear and can't break it. Thousands in use. Don't buy a manure spreader of any make or kind at any price until you first get my proposition.

Write Today For Catalog

You wish, either spreader, separator or engine. One or all. Economy is wealth. All I ask you to do is to first get my proposition before you purchase any one of these articles of any other make or kind at any price. Just drop me a postal.

Wm. Galloway, President
The William Galloway Company
987 Galloway Station Waterloo, Iowa

Program

Vocal Solo—Betrand A. Orr, Agricultural College.
 President's Address—Mrs. A. A. Divine, Mapleton
 Report of International Congress for Farm Women—Miss Mabel Sensor, Aberdeen, S. D.
 The Little Country Theater—A. G. Arvold, Agricultural College.
 Economy of Human Energy in the Farm Home—Mrs. C. A. Fisher, Oriska.
 First Aid Emergencies in the Farm Home—Miss Alice G. Haggart, Agricultural College.
 Preparing Poultry for Market—Miss Catherine Lanxon, Fargo.
 Interesting the Farm Boy and Girl in Livestock Production—J. C. Hoke, Special Agent, Better Farming Section.

that might account for the existence of these imposters. In the outbreak of 1908 there were instances of men who obtained money from credulous victims who believed that in this way they would escape the inconvenience of quarantine and disinfection. This is, of course, a very sample form of extortion. Another motive may be the sale of some quack remedy for the disease.

Stock owners can protect themselves very easily against this fraud, for there is no specific remedy for the foot-and-mouth disease. Since the germ has never been isolated, it has never been possible as yet to find any serum that would act either as a cure or preventive, and the public may be quite certain that anyone who says that he is an employee of the Department of Agriculture, and at the

same time attempts to sell or even recommend anything of the sort, is simply an imposter. For this reason stock owners are warned not to allow strangers to visit their stock or attempt any demonstrations of so-called cures by injections or otherwise.

There is, moreover, very great danger that such people might disseminate the disease. It is a well-known fact that the germs can be carried on clothing. In infected territory, therefore, it is quite possible that a man who has come in contact with stricken animals may bring the disease to a perfectly healthy herd. This also accounts for much of the spread of hog cholera.

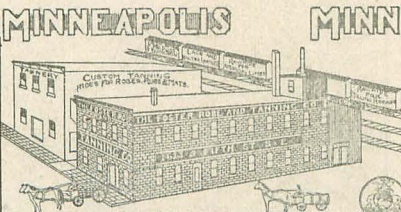
The department therefore recommends all farmers to keep their animals from contact with all save those who have definite business with them.



E. M. Granlund, of DeLamere, whose two sons, Henry and Walter, have carried off first prize in the acre corn contests of 1913 and 1914, respectively. Mr. Granlund's seed corn, as a consequence, has become famous thruout the Northwest.

STOCK OWNERS WARNED AGAINST IMPOSTERS

Reports are now beginning to come in to the Department from several of the states quarantined for the foot-and-mouth disease that persons who have no connection whatsoever with the department are attempting to pass themselves off as Federal inspectors. There are several possible motives



Tanning Robes, Coats

No War Prices---Same As Always

Send us your hides or furs and we will tan and make them into the most valuable fur garments you ever owned. Our Tanning is wind, water and moth proof. We use only the highest quality materials and employ expert workmen. Our goods are the best on the market; our work is guaranteed. We repair and reline old robes, coats and furs and make them look like new.
 Send postal today for catalog and tags.
 We have over 500 robes and coats of all descriptions for sale cheap. Write for prices.

Foster Robe & Tanning Co.

1613-5th St. S. E.,
Minneapolis, Minn.
Oldest and Largest Custom Tanners for Northwestern Farmers.

This Man Makes \$200 a Week Boring Wells



John Larson of Punnichy, Sask., writes: "I made in one single day with my Power Well Machine, \$83; and many weeks I have made \$200 including moves." Work during your spare time with an

Improved Powers Combined Well Boring and Drilling Machine

and make \$2,000 a year extra on a small investment. Every farm or ranch needs running water. Bores through any kind of soil, 100 ft. in 10 hours, and drills through rock. Operated by same team that hauls it, or with gasoline engine if preferred. Simplest and fastest well-making outfit on the market. Requires no mechanic or previous experience. One man and one team operate it. Sold on easy terms. Write for catalog showing different styles and giving full information.

LISLE MFG. COMPANY,
Clarinda, Iowa

ONE MAN ONE TEAM



SEED WANTED

We are in the market for North Dakota grown TIMOTHY, CLOVER, ALFALFA, BROMUS and MILLET of all varieties.
 Send us samples of any high grade grass seed or seed grain you have for sale, and we will make bid on same F. O. B. your station.
 WRITE US TODAY.

FARGO SEED HOUSE

Fargo, North Dakota

Represent the N. D. F. at Institutes and Conventions this winter. Write for very attractive terms.

North Dakota Farmer

Entered as second class matter in the postoffice at
Lisbon, North Dakota

PUBLISHED EVERY MONTH

W. G. CROCKER, PUBLISHER
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PROF. J. H. SHEPPERD, State Farm Notes.

PROF. W. B. RICHARDS, Livestock.

**PROF. C. B. WALDRON, Fruits, Forestry,
Insect pests.**

Remittances should be made by Draft, Post-
office Order or Express Order.

Address all business correspondence to the
Lisbon office.

Vol. 16 DECEMBER, 1914 No. 6

Ring out the old ways; ring in the new.

Agriculture is least affected by the great European war. Make the most of it.

The farmer is never "out of a job," while there are millions of townspeople begging for work.

If the manufacturers continue to bring the tractor within the means of the quarter-section farmer that machine will become as indispensable as the binder.

So great was the number of new subscribers that we were unable to supply them all with the November number. Altho this is regrettable it is also acceptable.

It would actually pay to shovel that machine out of the snowdrift and properly house it. The very man who begrudges an extra 5-mill tax for school purposes may be squandering ten times the tax by exposing his farm machinery to the elements.

The winter short courses in agriculture and engineering as well as in home-making at the Agricultural College, beginning the first of the year, should attract hundreds of boys and girls from the rural districts, as the instruction offered is of the most useful and practical character.

The boys' and girls' industrial contests have attracted wide attention and are turning their eyes and minds

The N. D. F. offers special inducements to live agents at the winter Conventions and Institutes.

in the right direction. The state needs progressive farmers and home makers more than anything else. Given these, everything else follows.

The foot and mouth disease attracted wide attention and was the cause of heavy financial losses in many of the middle states. Fortunately for the country it is that the Federal government takes cognizance of such contagious diseases and enlists the best talent of the Nation for their eradication.

Rotation of crops will never down until farmers generally put rotation into actual practice. If all other reasons fail to convince farmers of the necessity of rotating crops, the ulti-

ways where their interests are mutual. The best form of organization is perhaps the Grange, and since a number of Granges have been established in the state their number should be increased until every community has a Grange.

The Tri-State Grain Growers' Convention will be held in the Fargo Auditorium January 19 to 22. This convention promises to be the best ever and will be held in the most commodious and splendidly equipped hall in the Northwest. The majority of the speakers will be actual farmers and nearly all of the other speakers are directly connected with agriculture as scientists or home-makers. Farmers and their wives should attend this convention.



Henry Granlund, DeLamere, N. D., winner of sweepstakes prize, 1913, and fourth prize in southern section, 1914.

mate poverty of the all-small-grain farmers will force the issue. Rotation of crops is absolutely essential to agricultural prosperity.

The time is near at hand when the farmer will be really independent; when he will be master of his business. If the production of crops and livestock were his only mission he would always be subservient to interests able, and being able, likely to absorb the bulk of his profits. The interests referred to may be necessary and useful, but must not be permitted to exercise more than their fair share of power in fixing prices of farm products or directing the farmer's business. Independence cannot be enjoyed except where farmers cooperate in many

Every young man, country-bred and in touch with rural conditions should aim, at the earliest moment, to secure a farm,—even if a small one. Money invested in productive land is safe and insures a good living, when intelligently managed, and where small savings are made from year to year the accumulations will make the declining years of life happy and cheerful.

The extension work of the Agricultural College should reach every community in the state. There should be no prejudice against the men and women rendering extension service, but instead the most cordial cooperation. No one is too old to learn or too independent to be of service to his fellow-men.

Pure Food Advertisers

The products advertised below are in compliance with the pure food law of North Dakota and of the highest grade.
ASK YOUR GROCER FOR THEM.



**"Ah-h-
Great!"**

The world-old ambition of woman is to please man. No other line of food-products is so certain to please him as

BLUE BIRD Canned Goods

This brand of EXTRA-standard foods is good enough for anybody—and the cost is low enough for everybody.

The
BLUE
BIRD
line
on a
dealer's
shelves
adds
class
to his
store



**STONE-ORDEAN-
WELLS COMPANY**
DULUTH and Branches

Our Candies Are Pure

Chaney-Everhart Co.
 Fargo, N. Dak.

"BUY"

"EAT"

HOME BRAND

Pure Food Products

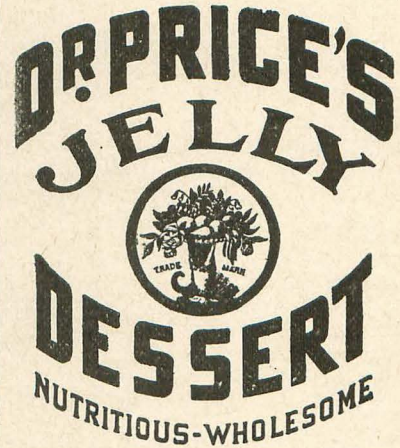
"ECONOMY" "SATISFACTION"

Griggs, Cooper & Co.

MANUFACTURING
WHOLESALE
GROCERS,

ST. PAUL, MINN.

Main Offices:
CORNER THIRD AND BROADWAY



One package, 10 cents, makes
pint of wholesome Fruit Jelly. All
flavors from true fruits.

MONARCH BRAND



FOOD PRODUCTS

A GUARANTY OF PURITY. A WEL-
COME GUEST at every table where the
HOUSEWIFE demands the BEST. THE
MONARCH LABEL insures QUALITY in
Coffee, Catsup, Pickles, Maple Syrup, Canned
Goods or any article bearing the MONARCH
BRAND of REID MURDOCH & CO
CHICAGO.

Eat North Dakota Sweet Corn

Sanitary

PACKED BY
ONLY
FACTORY OF
ITS KIND IN
THE STATE.
SEALED IN
SANITARY
CANS AT
OUR
MODERN
THREE-
STORY
FACTORY



Delicious

NORTH
DAKOTA
CORN
EXCELS IN
SWEETNESS.

ASK YOUR
GROCER
FOR OUR
BRAND.

WRITE FOR
PARTICU-
LARS

Sheyenne Valley Canning Co.

Lisbon, N. D.

Livestock Department

FARM AND STOCK NOTES N. J. Shepherd

Slow and careless drivers make lazy horses.

Hogs give quick returns on a small investment of capital.

The thrift of the colt is wonderfully increased by a daily grooming.

A cross-bred male cannot be relied upon for producing uniform offspring.

With brood sows good condition is essential but excessive fat is detrimental.

Size, form, bone and constitution must always be first regarded in breeding.

True economy in the form consists in utilizing so far as possible waste materials.

For the dairy it is best to discard all cows that develop objectionable traits naturally.

A good night's rest goes a long ways towards making a horse able to do a good days work.

If early maturity with pigs is secured there must be no carelessness in the feed or management.

No food ever given to a hog is so well invested as what is fed to a sow suckling her young.

One of the best ways of increasing the profits in dairying is to lessen the cost of producing milk.

Looking between the hind legs, the lower a horse's hind quarters come down together before they split apart the better.

It is a matter of economy as well as mercy to properly mate horses that have to work side by side.

Under average conditions in fattening hogs shelled corn is a more economical ration than cornmeal and especially when fed dry.

When a really good trotter is produced, usually the cost of his development and exhibition will eat up the price he brings.

When the pigs get fairly to eating be careful to increase the feed as gradual-

ly as the pigs' power of assimilation increases.

The hog will utilize much on the farm that otherwise might go to waste. This is especially true on the small farm.

When the cream is perfectly ripened before churning the churn gets out more of the fat and the buttermilk carries away less.

The amount of fat in any cow's milk is entirely inherent in the individual and no changes of feed can affect it materially.

Wool is the farm product which brings the most money in proportion to what it takes from the farm and with least labor to the producer.

The good draft horse is one farm product that can stand the charges for transportation to market and yet leave a good profit to the owner.

The amount of milk a cow gives is not as important as the quality and the length of time she keeps up with the average flow.

It is pretty well settled that there is no normal system of feeding that will materially change the percentage of fat in a cow's milk for any great length of time.

In a well formed horse, one that is built for speed and endurance, the hind legs from ankle to hock, are exactly vertical, a divergence from this in any direction being faulty.

The ability of a horse to pull must be seconded well by his willingness, for no matter how able a horse may be to pull a load, if he is unwilling to make the proper exertion he is decreased in value to that extent.

Ewes will produce larger and better lambs if they are in good plump condition at the time of coupling. If not in fair condition they should be gaining and kept improving until spring or until they reach the desired condition.

Keep as few pigs thru the winter as possible. As a rule, there is more profit in having the pigs come early enough to make good pork in the fall

than there is in keeping a lot of young shoats thru the winter, for too much of the food consumed goes to maintain animal heat.

Exclusive dry food no matter how rich or how much is given can not give as good results as succulent food. Here is where the silo is of great advantage, it furnishes a supply of succulent food to go along with the dry food in winter to aid materially in maintaining milk production.

SELECTING THE COW THAT WILL MAKE MONEY

SEVENTH YEAR—FIFTH MONTH

The cow is a machine to convert, cheaply, feed into milk. Like other machines, a large capacity is usually accompanied by economy in production.

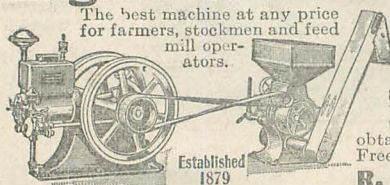
The first consideration in selecting a dairy cow to make money is to get one with a large stomach capacity. A light feeder never makes a good profit. The ability to handle a large amount of food is indicated by great depth and width just in front of the hips. The cow should have long ribs well sprung. The round, short-ribbed, pony built cow soon dries up. The long, flat-ribbed cow has ample depth of body, but lacks the necessary width to be a profitable feeder. The ribs must be both long and well sprung. A broad jaw furnishes grinding surface for a large quantity of feed. The narrow-jawed cow is not profitable.

A good feeder, to be a profitable dairy cow, must convert her feed into milk and not change it into flesh that is put on the body. A good indication that the feed will be used to produce milk is a shoulder that is thin and sharp at the top, with little muscle on the sides when the cow is in good condition. (A beef cow's shoulders are thick on top and when she is in good flesh they are thickly covered on the sides). The brisket should be light and the cow gradually increases in depth and width backwards.

The hip bones of the well-fed dairy cow are prominent; they project enough so one could hang his hat on them. (A good beef animal's hip bones are so well covered with flesh that they hardly show). The thighs should be thinly covered with flesh.

The udder is the organ that manufactures the milk from the blood and there must be a large udder to produce a high yield. Nature never places the bulk of the udder below the underline. To secure a good udder the flank must have a high arch and the body must be cut up between the

Engine & Feed Grinding Outfit



The best machine at any price for farmers, stockmen and feed mill operators.

THE HOWELL ROLLER FEED MILLS have been wonderfully successful everywhere. They wear a life time, grind twice as fast with the same power as the best burr or stone mill made. Good money in custom grinding. Grinds Graham and Rye Flour as well as feed. Engine is of latest and most up-to-date design. Runs at proper speed to obtain best grinding results. Simple and Durable. Free Catalog D3 tells everything.

Established 1879

R. R. HOWELL & CO., Minneapolis, Minn.

hind legs almost to the tail, to make room for a large udder. The best udder extends well forward and well up behind. The teats should be placed well apart and should be long. The milk veins running along the belly in front of the udder are large and crooked in a good dairy cow when she is milking well. These veins enter the body thru openings in the belly, called milk wells. In a good dairy cow these openings are as large as the end of a man's thumb; usually in a beef animal the milk wells are located just a short distance in front of the udder. In the highest yielding milk cows the milk wells are near the front legs.

The eyes of a high-yielding dairy cow are wide apart, large and set out from the head. The backbone is sharp. These two features indicate the development of the enormous nerve power that is needed to digest large quantities of feed and transform it into milk.

The skin should be soft and thin. The hair should be fine and silky. The bone should be fine. A coarse-boned cow usually produces milk at too high a cost. The head should be lean and long. A coarse or thick-meated jaw does not go with large milk yields. The nostrils should be large and the neck thin.

The best way for a beginner to learn to select cows is to take a course in stock judging at an agricultural college. When he cannot do this he should inspect as many high yielding dairy cows as he can find and if he will study their points thoroly he will soon be able to do fairly good work in selecting cows that will pay at the pail. A dairyman should keep up this study as long as he lives.

The Breed to Choose

The type of cow is more important than the breed. The dairyman should keep good cows of the breed he likes best. Many grade and scrub cows that have the true type of dairy cow are very profitable milkers, but their mixed breeding makes it very uncertain as to what their progeny will do.

Ayrshire. The Ayrshire is a very hardy cow. The breed originated in a cold country, where the pasture was sparse and the cows had frequently to travel 30 to 40 miles in a day to secure sufficient food.

The Ayrshire is particularly adapted to mountain sections and the plains. The cows yield a large quantity of moderately rich milk and the milk globules are smaller and more uniform in size than those in the milk of other breeds. For this reason the cream does not separate so completely from the milk as where the globules are larger. This makes the milk specially valuable for children and invalids.

Guernsey. This is a cow that consumes good quantities of food and gives a large quantity of rich milk. The richest colored milk of any breed. The Guernsey is a profitable cow where she has good shelter, care and abundant feed. They are more intelligent than most breeds and quiet. A good cow for an expert dairyman.

Holstein. This breed yields an enormous quantity of rather thin milk, probably produces milk cheaper than any other breed and is an economical producer of butter. A very quiet breed. For 2000 years the Holstein has been bred in a country of rich, small pastures. The cows are kept all winter in the barns, not being given any exercise, and are heavily fed. The cows, therefore, do best where they have abundant feed and little exercise. The Holstein is the favorite cow with most milkmen in the West.

Jersey. These cows produce good yields of rich milk. A good Jersey is probably the most economical producer of butter fat. There are many culls in the breed, and a cull Jersey is the poorest kind of a scrub. The Jersey is the favorite cow for family use and for dairymen who sell high priced milk and cream. She is an economical butter cow, but to be profitable must have plenty of good feed and the best of care.

Red Polled. The Red Polled is a general purpose breed in which it has been tried to combine beef and milk. Some of the cows are profitable milkers, giving large yields economically; others are poor dairy cattle.

Milking Short Horn. This is the dairy breed of England and the breed

CLASSIFIED ADS.

One Cent a Word

Small advertisements will be classified under appropriate headings at the low price of one cent a word for each insertion. Cash must accompany all orders. Each initial or number must count as one word. TRY IT HERE.

LIVE STOCK

POLAND CHINA PIGS, also Shropshire sheep. Seed grain. GEO. N. SMITH, Amenla, N. D.

ASH GROVE FARM, Knudtson & Son, Props. Breeders of Pure Bred Percheron Horses and Short Horn Cattle, Both Sexes. Stock for Sale. Route 1 Fullerton, N. D.

J. S. BIXBY
RED POLL CATTLE. If you want dual-purpose cattle, I have the best. Rhode Island Reds, also in stock. LISBON NORTH DAKOTA

Mulefoot Hogs are Healthy, Hardy and Prolific. Jno. Dunlap, Breeder, Williamsport, Ohio.

SHORT HORNS
Young stock for sale. All registered. Jim Uglum, - - - Bowbells, N. D.

REGISTERED POLLED SHORTHORN CATTLE AND BOURBON RED TURKEYS.
Some good young Bulls for Sale. Odessa Stock Farm, - Devils Lake, N. D.

Meadowlawn Farm. The largest breeders in North Dakota. Percheron Horses, Shorthorn Cattle, and Berkshire Hogs. Where quality counts. Address: A. H. WHITE, - - - Kramer, N. D.

For Large Yorkshires of either sex and bred gilts, address L. A. Knoke, Badger Den Stock Farm, Willow City, N. D.

Choice Poland China Hogs always on hand. Bred Gilts all sold. Register now for spring pigs, either sex; prices right. Thos. Forbes, Petersburg, N. D.

HIGH GRADE LIVESTOCK: Clydesdales, Double-standard Polled Durhams. Farm Horses and Drivers. Leal Stock Farm, - - - Leal N. D.

PERCHERONS FOR SALE

We are offering a choice lot of young mares and stallions, all raised here on the farm and thoroly acclimated.

WHITE BROTHERS
Valley City - - - North Dakota

ENVILLA STOCK FARM

Envilla Stock Farm, Cogswell N. D. will quote you special prices on Angus Cattle, Shetland Ponies, Duroc Jersey Hogs, Wolf Hounds, Collies, Rat Dogs and other breeds, Angora Cats. All varieties of chickens; turkeys, geese, ducks, guineas, pheasants, rabbits, ferrets. Pets. Live Foxes, Skunks, Mink and Badgers.

MISCELLANEOUS

WANTED. Live Foxes, Skunks, Mink and Badgers, any time. Envilla Stock Farm, - - - Cogswell, N. D.

WANTED to hear from owner of good farm for sale. Send cash price and description. D. F. Bush, Minneapolis, Minn.

Lady Agents, to represent us, placing our fine collection of Perennial Flowering Plants in every City and Town, for fall planting. Address Wm. Pfander, Jr. Proprietor Pioneer Nursery, New Ulm, Minn.

FOR SALE: 45 Horse, 4 Cylinder, Eagle Tractor Engine; nearly new for \$600.00. F. Jaskowiak, - - - Bismarck, N. D.

FILMS DEVELOPED, 10 cents (any size). Prints or Post Cards, 3 cents each. Ansco films at list price, sent post paid. One of the largest finishers in this country. Thirty years' experience. RITCHIE BROTHERS

Dept. 2, - - - Centralia, Ill.

GIVE GERMAN DISTEMPER REMEDY a Trial. Your money back if not satisfied. German Distemper Remedy Co., Goeben Ind.

AGENTS WANTED, in every county in Minnesota, North and South Dakota, to sell our hardy "Pioneer Quality" Nursery stock. All or your spare time. Outfit free. Write for particulars and territory to Wm. Pfander, Jr., Proprietor Pioneer Nursery, New Ulm, Minn.

Two O.I.C. Hogs Weigh 2806 lbs.

Why lose profits breeding and feeding scrub hogs? Two of our O. I. C. Hogs weighed 2806 lbs. Will ship you sample pair of these famous hogs on time and give agency to first applicant. We are originators, most extensive breeders and shippers of thoroughbred hogs in the world.

U. S. Govt. Inspected Herd

We have bred the O. I. C. Hogs for 51 years and have never lost a hog with cholera or any other contagious disease.

Write—Today—for Free Book "The Hog from Birth to Sale"

THE L. B. SILVER CO.

544 Vickers Building, Cleveland, Ohio

that supplies most of the enormous quantity of milk used in London. The cows are favorites in many sections of the corn belt, where milk and a marketable steer are wanted from the same breed.

The Scrub. Pure bred cows demand pure bred care. Many farmers do not have the knowledge and experience to give this. Farmers who are not skilled dairymen had better select scrub and grade cows that are of good dairy type. These can be found in most western herds, even among range cattle. They are not high priced and the farmer who is in earnest can learn how to feed and handle dairy cows with them, without the risk he would have if he practiced on high priced pure breeds. A bull should be selected of a favorite breed and the herd can be graded up as fast as the ability of the farmer to handle good dairy stock grows. The farmer, in grading up, should stick to one breed.

MAPLE LODGE LARGE YORK SHIRES

March and May pigs, \$10 up, also a few fall pigs, stock of good type and strong bone. Bourbon Red Turkeys, \$2.50, up. Partridge Wyandottes, (winter layers) stock and eggs, \$1.50. Edward Klebaum, Egeland, N. D.

SEE OUR SPECIAL OFFER, PAGE 2

WANTED—Responsible party to take charge of business in each county. New Automatic Combination Tool, combined wire fence stretcher, post puller, lifting jack, etc. Lifts or pulls 3 tons, weighs 24 pounds. Sells to farmers, shops, teamsters, etc. Descriptive catalogue and terms upon request. Harrah Manufacturing Co., Box M., Bloomfield, Ind.

ALFALFA SEED DIRECT.
Sample and growers price on application.
J. L. MAXSON BUFFALO GAP, S.D.

For Sale Subscriptions
NORTH DAKOTA FARMER to the
Write For Agents' Terms

IF YOU WANT

A Bargain in a Farm in central Missouri Near a Good R. R. Town Write

A. P. WEAVER
ELDON - - - MO.

The Jersey



comes into maturity early, is long-lived and is often found making records even to advanced age. She stands above all other breeds for economic production. Shall we mail you free a good book on the Jersey?
THE AMERICAN JERSEY CATTLE CLUB,
324 W. 23d St., New York City.

Drew Carriers.

Dump Anywhere within a 45 Radius

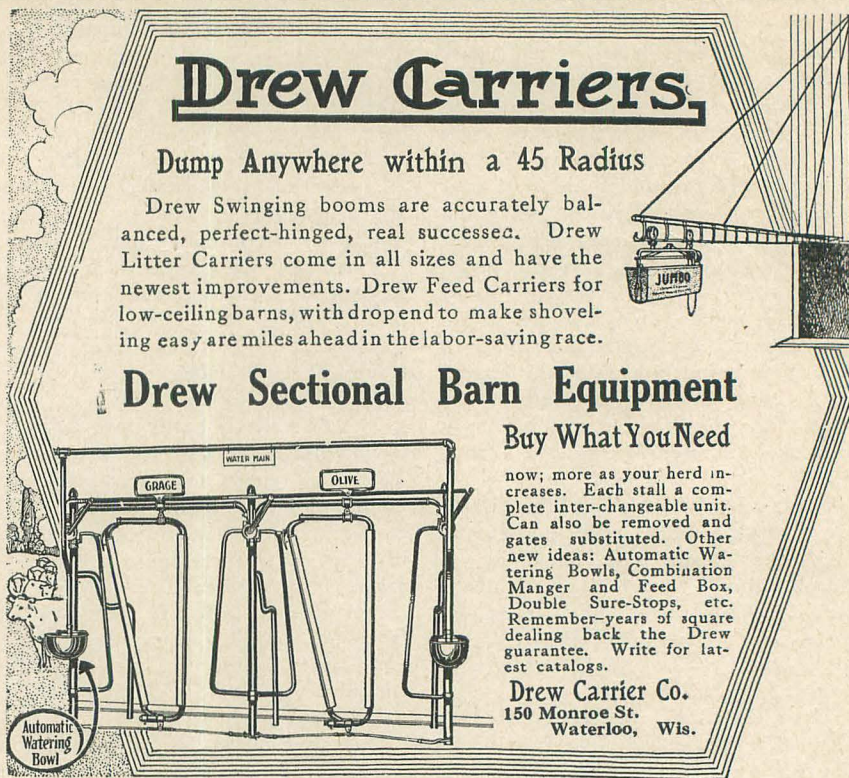
Drew Swinging booms are accurately balanced, perfect-hinged, real successes. Drew Litter Carriers come in all sizes and have the newest improvements. Drew Feed Carriers for low-ceiling barns, with drop end to make shoveling easy are miles ahead in the labor-saving race.

Drew Sectional Barn Equipment

Buy What You Need

now; more as your herd increases. Each stall a complete inter-changeable unit. Can also be removed and gates substituted. Other new ideas: Automatic Watering Bowls, Combination Manger and Feed Box, Double Sure-Stops, etc. Remember—years of square dealing back the Drew guarantee. Write for latest catalogs.

Drew Carrier Co.
150 Monroe St.
Waterloo, Wis.



ST. PAUL UNION STOCKYARDS COMPANY, SOUTH ST. PAUL, MINN.

Comparison of Receipts and Shipments of Livestock for November, 1914

	Receipts					
	Railroads	Cattle	Calves	Hogs	Sheep	Horses
C. R. I. & P.	309	124	1593	148		38
C. G. W.	1333	447	6736	1505		159
C. M. & St. P.	3941	844	26933	10683	34	612
M. & St. L.	1447	546	14045	1953		294
C., St. P., M. & O.	2198	656	17121	6299	22	372
C. B. & Q.	82	10	798	336		16
M. St. P. & S. S. M.	13523	1512	45058	8658	10	1190
Gt. Nor.	17262	3248	69004	110055	49	2090
Nor. Pac.	11220	868	37801	18705	59	981
St. P. B. & T.						
Driven In.	835	165	1463	143	12	
Total.	52150	8420	220552	158485	186	5732
Inc. over 1913	2996	849	74691			839
Decrease.				37691	81	
Jan. 1 to date	427353	111542	1348550	724037	4272	40157
Inc. over 1913	42282	2070	253159			4962
Decrease.				2956	740	
Average Wts.	816	223	201	83		
	Shipments					
	Railroads	Cattle	Calves	Hogs	Sheep	Horses
C. R. I. & P.	1348			330		45
C. G. W.	2599	29	884	2625	71	118
C. M. & St. P.	8619	441	73628	53691	23	1219
M. & St. L.	667	69	1513	395		38
C., St. P., M. & O.	5071	138	18478	9277	20	383
C. B. & Q.	3505	3	12048	17380	21	306
M. St. P. & S. S. M.	943	69		8066	5	63
Gt. Nor.	2490	68	1430	3707	7	107
Nor. Pac.	2471	217		1763	4	82
St. P. B. & T.	52	8				3
Driven Out.	1005	216	1042	231	29	
Total.	28771	1258	109023	97475	180	2364
Inc. over 1913		244	63212			
Decrease.	8688			63242	97	36
Jan. 1 to date	283152	23422	424657	519313	4222	16176
Inc. over 1913	3680	1362	157072			1792
Decrease.				47006	759	

THE DAIRY COW

By Charles Cristadoro

Feeding

Regard the cow as a machine for a moment, a milk engine as it were, In common practice, if you use poor coal in your furnace, you make less steam, your engine does not properly stand up to its work and you are a loser.

And so with the cow, if you do not feed her the right kind of food you fail to secure from her the full quota of milk. Cause and effect.

It may be very handy for the careless, slovenly farmer to throw down in front of a hungry cow an armful of fodder of some kind, but the farmer dairyman pays for this carelessness and ignorance when the weight of the contents of the milk pail are considered.

Then again the question is brought home to the dairyman as to whether he is keeping a cow just because she is a cow and nothing else, a sort of farm ornament, or whether he is keeping her because of the revenue she produces. How many dairymen are intelligent, wise, industrious and careful enough to know what each cow is eating and what it costs, and what each cow is producing in milk volume and in butter fat? How many dairymen can go into their barns and point out the producers and the drones, the star boarders in the herd? How many manufacturers, running a large plant, could succeed if they were running a lot of machines, some deficient and

FOR SALE: Duroc-Jersey Boars including Herd Boar; Shropshire Ram Lambs; Barred Plymouth Rock, and Single and Rose Comb R. I. Red Cockerels, Dark Muscovy Ducks.
E. W. SMITH, : : : BUFFALO, N. D.

Field Inspected "Pedigree Barley" and No. 1 Hard "Marquis Wheat." Taking orders this month only to be shipped in February. Watch the exhibits at Fargo the coming January, especially "Garton's Pedigree No. 5" Oat.
Joe Stahl, : : : Pekin, N. Dak.

WANTED to hear of good farm or unimproved land for sale. Send description and price. Northwestern Business Agency, Mpls, Minn.

Firemen, Brakemen, railroads near your home, \$100-\$120. Experience unnecessary. Send age, postage. Railway Association, Dept. P-92, Brooklyn, N. Y.

S-M-A-S-H

DID YOU HEAR IT?

To encourage Dairying we will enter your name on **both** the North Dakota Farmer and the Kimball's Dairy Farmer for **Five Years** for only \$1.00.

Act Quick. Offer Limited.
NORTH DAKOTA FARMER
Lisbon, N. D.

Represent the N. D. F. at Institutes and Conventions this winter. Write for very attractive terms.

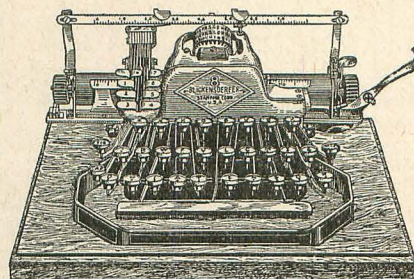
TEACHERS, LOOK!

Did you ever stop to think of the practical uses of the typewriter in your school work, besides helping you to secure the school? Why not make from two to a dozen copies by writing but once?

"THE BLICK" IS MADE OF ALUMINUM AND ONLY WEIGHS 5 POUNDS. It is just the typewriter for the teacher as they come in a very neat carrying case,

and can be taken to and from school. I have used my typewriter for three terms of school now and find it indispensable for teachers as a time and labor saver. Please write for particulars to,

L. P. OLDS - - - - - ROCK LAKE, NORTH DAKOTA.



ST. PAUL UNION STOCKYARDS COMPANY, SOUTH ST. PAUL, MINN.

Comparison of the Origin and Disposition of Livestock for November 1914

States	Origin of Livestock Received					Total Cars
	Cattle	Calves	Hogs	Sheep	Horses	
Minnesota...	25140	7404	126111	33520	71	2795
Wisconsin....	2274	424	6582	2920	.....	189
Iowa.....	40	1	409	.....	22	9
Far South....	.....	.....	.....	.....	.....	.....
So. Dakota ..	2174	23	15442	4770	33	349
No. Dakota...	12050	463	60692	19511	41	1365
Montana.....	2982	6	845	97764	19	566
Far West.....	.....	.....	.....	.....	.....	.....
Manitoba & NWT.	7370	86	10471	.....	.....	456
Far East.....	.....	.....	.....	.....	.....	.....
Returned....	120	13	.....	.....	.....	3
Totals.....	52150	8420	220552	158485	186	5732

So. St. Paul P'k's	Disposition of Livestock					Total Cars
	Cattle	Calves	Hogs	Sheep	Horses	
Cy. & St. Butch.	958	57	14061	.....	.....	161
Outside Packers	3531	361	91974	40120	.....	1131
Minnesota...	8887	483	122	9351	35	301
Wisconsin....	628	70	.....	649	47	27
Iowa.....	1557	3	347	520	49	59
Nebraska....	2104	1	.....	.....	20	78
Kans. & Mo..	54	.....	.....	.....	21	2
So. Dakota ..	1276	.....	.....	.....	1	36
No. Dakota...	844	130	.....	.....	.....	26
Mont. & West	1710	110	.....	.....	.....	44
Far South....	.....	.....	.....	.....	7	1
Manitoba & NWT.	.....	.....	.....	.....	.....	.....
Mich. & E. Can.	.....	.....	.....	.....	.....	.....
Chicago.....	6742	30	1334	39634	.....	442
Ills. (ex Chicago)	426	.....	.....	.....	.....	15
Eastern Points	115	.....	259	7201	.....	37
Acct. Serum Plants	.....	.....	926	.....	.....	.....
Returned....	140	13	.....	.....	.....	4
Totals.....	28771	1258	109023	97475	180	2364

showing a profit, and again others losing money each day, and yet not knowing what each machine was doing? Yet, there is where the average dairyman is, he don't know

the value of the food each cow consumes any more than he knows the quality of the milk and the value of it in butterfat content she yields. Whether one cow is not worth her

keep and her neighbor a profitable producer, he knows nothing about it. The good and the bad, worthless, expense-creating cow runs side by side and the dairyman is none the wiser. He's got too many other things to do other than finding out whether certain cows are costing him good money or whether they are paying him a profit. Such a dairyman is too busy to be in the dairy business. The man who is so busy that he cannot properly give the time to the details of his business is too busy a man to be in business, the dairy business or any other kind of business. He should retire for his own good.

There's no business requiring quite so much judgment and care as the dairy business. It means much more than throwing some alfalfa hay down to the cows, giving them some water and milking them twice a day and getting the milk to the consumer in any old way, clean, safe or otherwise. The scrub cow is and always will be a scrub cow; the grade cow is a rise in the scale, but is a grade cow after all, but a pure bred cow is a pure bred cow and you never can get away from that most desirable dairy fact.

If you are to have Holsteins, have pure bred Holsteins, same with Jerseys, and by all means let your Guernseys be of the purest stock. It pays, and no cow gives such richly colored table milk and cream as the Guernsey cow. She has come into her own and May Rilma has become the queen of the dairy world with her wonderful record. Calves pure bred, like May Rilma quality cannot be picked up for \$5 or \$10 each. There's a difference between a scrub and a pure bred calf.

Feed your cows a balanced ration, and whether it be balanced or unbalanced means 25 to 40 per cent more milk or less milk, to say nothing of the physical condition of the cow because of proper or improper feeding. Dairying is a business and it becomes profitable or otherwise in the ratio to the brains put into it. A dairy will not run itself on corn-stalks and water. And we get back to the primary question as to what you are feeding your cows and what they are producing in milk, who the drones are and how much they are pulling down the general average. Know your dairy and each individual cow in it. Weed out the drones and replace them with producers. Do it now.

As A Food Producer

Milk is most indispensable and valuable of all foods. Were there no other foods upon this earth we could

live alone on cow's milk. It has within it the constituents, well balanced, to supply every want of the body, and by its intelligent and free use the Bulgarian lives more than the allotted span of three score years and ten, for in the Bulgarian village the man and woman 100, and even 125 years of age, are encountered.

The average contents of milk are water, 87.4 per cent fat, 3.7 per cent casein and albumen, milk sugar 5 per cent and ash 0.7 per cent. Roundly speaking milk has about 13 parts of solid food and 87 parts of water. Let us see what food value these solids of milk possess. The water in the milk we must have as a dilutant for the organs of the body. The cream or fat imparts heat and energy to the body. All fats and oils and sugars and starches build up fat and are energizers. Lean meat is an energizer, but as such butter is about two and one-half times more valuable. The lean of meat, the casein (cheese) of milk and the gluten of vegetables and cereals, all these impart energy also, but they do more than that, in fact they do what fat, oil, starch and sugar can not do, rebuild, upbuild, resupply the waste caused by combustion constantly going on in the body. So the casein and albumen in milk, besides imparting energy they make muscle, tendon, skin, hair and nails. A gallon of cream consumed per day, cream devoid of any casein, could not do what a pint of milk could do in a flesh forming way. But despite the value of casein and albumen as a food, nitrogenous matter, also represented by the lean of meat and the gluten of cereals, we could not live indefinitely upon the casein (cheese) of milk alone, any more than could we live solely on the lean of meat or the gluten of wheat, without sadly impairing our bodily condition.

Cow's milk has to it a peculiar balance, so necessary in proper nutrition, that no other food possesses. The balanced ration is a changeable quantity depending upon the requirements of the physical consumer. The body requirements change from infancy, all thru life into old age, because of occupation and bodily waste, requiring more or less of one thing than an-

other, less of energizers and more of protein, flesh formers and vice versa.

The man at his desk, the clerk in the store, the man doing hard manual labor in the lumber camp, the mine or on the railroad construction gang—their diet should not be balanced the same in each case. The tremendous meal of pork and beans tucked under the belt of the lumber-jack, who works all day in a 20 degrees to 40 degrees below zero atmosphere, felling timber, in his shirt sleeves and sweating at every pore, would, if consumed by a sedentary man, produce convulsions and death. Yet the high protein content of the bean, the fat of the pork and the carbohydrates in the beans, in practice a balance has been perfected that will keep the laborer healthy and vigorous to a surprising extent. The energizers and flesh formers seem to be wonderfully well balanced in pork and beans, for the man requiring that kind of a diet. But in no food is such a perfect balance maintained as in cow's milk.

Milk does not shrink in the cooking as does beef, for instance, eight pounds of raw beef becoming but six and one-half pounds after boiling, five and one-half pounds after baking and but four pounds, five ounces, after roasting.

I have always contended that the dairyman, not receiving what he thought was a decent price per quart for his milk, felt less responsibility as to giving decent, clean and safe milk. To illustrate: We pay 8 cents, say, for a quart of milk, and the same amount of food in eggs, represented in that quart of milk we pay 8 cents for, costs us 29 cents (eggs at 35 cents per dozen). If we traded a quart bottle of milk for eggs we should get ten eggs. We must pay 15 cents for enough meat (at 22 cents per pound) to equal the food in an eight cents per quart bottle of milk. In other words the food in our meat costs us nearly 200 per cent more than does the food in our milk.

It is not what we put into our stomachs that really counts as food, it is what we digest and assimilate and of all foods there is none ingested that is so completely digested and assimilated as cow's milk.

The dairy cow is the most useful

1900-C. C. DIBLEY & SON-1914

QUALITY—UTILITY—EXHIBITION

Single Comb Rhode Island Reds, Barred Plymouth Rocks, White Plymouth Rocks, Light Brahmas, Buff Wyandottes.

BIRDS OF HIGHEST QUALITY: Winners in the following shows 1913: Minneapolis and St. Paul, Minn., Fargo & Valley City, N. D. Mating list free. WOLVERTON, ROUTE 1, MINN.

Live Agents: Here's your Chance. Write for Institute N. D. F. Proposition. Act Quick.

of all animals. A cow giving 8000 pounds of milk per year furnishes over 960 pounds or say 1000 pounds of real food. It takes a year for a steer to add 500 pounds of weight to its body and that 500 pounds reduced to a real food basis, as done with milk, represents at most seventy-five to eighty pounds of food

value as compared with the 1000 pounds furnished by the most useful of all animals, the dairy cow. No wonder the East Indian regards the cow as sacred, and as a member of the family is so treated. The dairy cow is a great factor in our economic civilization.



Poultry Department



HISTORY OF THREE AMERICAN BREEDS

Michael K. Boyer

The Javas, both Black and Mottled; the Rhode Island Reds, Single and Rose Comb; and the Buckeyes, Pea Comb,—are members of the American Class that are worth considering.

Just how the Java fowl originated is very much in doubt. It seems there are two classes of this breed—one more or less English, and a later day American breed. Some time about 1850 fanciers in Missouri produced a breed from which are the direct descendants of the present Javas.

In 1882, J. Y. Bricknell wrote an article in which he said that about 1852 a family residing in the state of Missouri secured three eggs from a party who owned a few fine fowls he called Javas. He would neither sell nor give the progeny to any one, but his coachman "borrowed" the three eggs, and from them it is believed the American Java sprung.

In about 1857, they were introduced into Dutchess County, New York, by a family removing thence from Missouri.

Notwithstanding that the name Java would indicate a foreign breed, they are purely American. The variety was Black.

The Mottled Java followed, in 1872, by crossing a large white hen with a Black Java cock. The hen is described as one selected from a flock of large white fowls of excellent laying and table properties; and of a breed bred pure for years, but unlike any other variety described in the Standard of that day. It was not the purpose of making a new breed that this cross was inaugurated, but it developed qualities that at once appealed to the poultrymen. Therefore it might be termed an accidental cross.

The color of plumage resulting was a black-and-white variety closely resembling the plumage of the Houdan. Bicknell thinks that the introduction of the White hen blood to the Black

Java gave the new cross an advantage over the Blacks in laying qualities. I must be considered that with the Blacks there was, necessarily, much inbreeding.

For some reason or other, possibly because of the popularity of the other American breeds that practically have the same qualities with more to them in the way of attraction, the Javas are not occupying a very exalted position, altho they deserve better recognition. They are good layers, and have all the desirable qualifications of a good table fowl.

The Rhode Island Reds, altho practically a new breed, are very popular today. They very quickly gained prominence. While it has been but a few years that this breed has been introduced, its history dates back to at least 1854, at which time, it is claimed, Red Cochins China cocks, and later Red Malay cocks were brought into sections of Rhode Island and Massachusetts by sea captains. Later, Rose Comb Brown Leghorn blood was introduced in some sections, and thus for sixty years the male bird for the head of each flock was selected of a red color and a vigorous condition.

The Buckeye is the latest breed admitted to the Standard. It was originated by a farmer's wife, Mrs. Nettie Metcalf, formerly of Warren, Ohio, now of Inglewood, California, by crossing Barred Plymouth Rocks on Buff Cochins, with some outcrossing with Black-Breasted Red Games. The Buckeyes have never been boomed to any extent, but bear an excellent reputation for being a youngster. They are good layers, and non-superior as table fowls.

Thanks to the Pure Food Commission, the time is here when cold storage and preserved eggs can no longer be paraded under a different guise. They must be labeled just what they are. This move not only protects the customer, but it gives the poultrymen a chance to sell his fresh-laid eggs at a price that will give him his just dues.

FOR SALE

150 Choice Ferris Strain S. C. White Leghorn Cockerels at \$1.00 each.

MRS. WM. RYAN,
Pekin, N. D.

BRED TO LAY

And prize-winning strain. Barred Plymouth Rocks, White Orpington Indian Runner Ducks; Silver Spangled Hamburgs; Single Comb White and Brown Leghorns. Stock and Eggs at Reduced prices.

F. C. MITCHELL CROOKSTON, MINN.

POULTRY FOR SALE

White Wyandottes, Single Comb White Leghorns, Rose Comb Reds, hens 75 cts., pullets 85 cts., each. Fawn and White Indian Runner Ducks or Drakes, \$1.25 each. Mammoth Bronze Turkey Toms, \$4.00 each. Joseph Berg, R. 2, Box 12, Hendrum, Minn.



Rose Comb Red Cockerels

Rose Comb Red Cockerels for \$1.50; and Fawn and White Indian Runners, \$2.50 per pair, if taken now. Mrs. Fra Heidebaugh, Pleasant Lake, N. D.

White and Columbian Wyandottes, Light Brahmas, and S. C. White Leghorns Over 30 years a breeder. Stock and eggs for sale. Michael K. Boyer, Box 27, Hammonton, New Jersey.

White Rock and Columbia Wyandottes and Buff Orpingtons. Stock and Hatching Eggs in Season. O. A. Barton, Valley City, N. D.

Latta's S. C. Rhode Island Reds. First Prize Winners wherever shown. Stock and Eggs for Sale. J. G. LATTI, Wheatland, N. D.

Plum Grove Stock and Poultry Farm Breeders of Red Polled Cattle, R. C. White Leghorns and Buff Wyandottes. Stock and Eggs for Sale. V. E. GRANT, Prop., Cuba, N. D.

TURKEYS. We have about 50 Bourbon Red Turkeys; Toms at \$5.00; Hens, \$4.00. Can order from this Ad. We also have a few geese. E. A. Tow & Sons, Lisbon, N. D., R. 3.

EGGS FROM BUFF ORPINGTONS AND S. C. RHODE ISLAND REDS at special low prices Bred to lay. F. M. PEZALLA, Cayuga, N. D.

BRED TO LAY AND WIN

If you want Quality write Enoch J. Peterson, Alexandria, Minn Formerly Peterson Bros., Harwood, N. D.

HAUSMANN POULTRY FARM Breeders of W. Wyandottes and S. C. W. Leghorns Hillsboro, - North Dakota

WHITE WYANDOTTES. If you want eggs from an early maturing, heavy laying, prize winning strain of White Wyandottes write me. I am developing a special laying strain by use of the trap nest. Prices reasonable. Write M. C. JAMES, Valley City, N. D.

Silver Campines and Buff Wyandottes. Great layers of large white eggs. Eggs and young stock for sale in season. E. K. Myhre, Valley City, N. D.

FOR SALE. M. B. Turkey Toms, raised from our Diploma Stock, \$5.00 and up; also Eggs from 26 varieties poultry. Catalog free. L. GULDEN, Osakis, Minn.

POULTRY Ducks, Geese, Turkeys, Pigeons and Dogs. We are the most extensive producers of thoroughbred poultry in the world. Our fowls have won the leading prizes at America's largest Fairs and Expositions. Breeds are reared on separate farms. Send ten cents for Color Plate Poultry Book and price list. It tells how to make money with poultry; how to build poultry houses; how to hatch and rear chicks; how and what to feed for eggs. Every fowl shipped is selected by Expert Licensed Poultry Judges. UNITED POULTRY FARMS, BOX 31 HOPE, IND

School and Home

Miss Ura Leader,
Ruraldale, N. D.

My dear Miss Leader:

Since I have undertaken to assist you in your school work in agriculture, I must at this time give you a few hints on the work laid out for January. I hope that you are getting along nicely in your work and are making good progress in everything you are teaching, but more especially in agriculture. It is, I believe, one of the best points of contact between pupil and teacher. You can reach more students and excite more interest with that subject in a rural community, than in any other way. Moreover, with its help you can make pupils of those not attending school. I mean by making it such a living force in the school room that it will not be kept under cover after the child gets home. Then I hope that you are calling into play those everyday experiences of the children which are applicable to the lessons. If you are so fortunate as to yourself be the daughter of a farmer,—and I hope you are—you can do this very cleverly, giving the older pupils a chance to confirm, from their own experience, the facts touched upon in the lesson. You must, to keep their respect, show that you know intimately the things you are teaching them. If you have not been brought up on the farm it will be necessary for you to keep your eyes and ears open, and to learn agriculture at as near first hand as it is possible for you to do. If you go at it sincerely and with a willingness to learn you will be astonished to find how complicated a life a farmer lives after all.

The work planned for January in the seventh grade is, I believe, based upon plant diseases and insect enemies. You should study first hand the principal ones which are important to us here in North Dakota. I hope that you have already gotten, or will be able to get, samples of smut in wheat and corn, and rust in wheat or oats. I think that you can find smut balls in the corn fields at this time, and a little inquiry will probably reveal a source of smutty wheat or barley. An old straw stack will supply all the rust you may need. Then I hope that you have a microscope. A compound one is better, but a simple dissecting stand with a double lens may be made to serve the pur-

pose satisfactorily. You should also have at hand several needles thrust in the ends of small smooth sticks about the size of a pencil, and glass slips upon which to place the material for examination. There are several helpful bulletins on the subject which are not mentioned in the Course of Study.

N. D. Bulletin No. 107, "Wheat."

N. D. Bulletin No. 87, "Seed Disinfection and Crop Production."

Minn. Extension Bulletin No. 14, "Smuts."

Farmers Bulletin No. 507. (Send to U. S. Dept. of Agric., Washington.)

These are all good and you can get them free. Remember that one of

the things which you should aim to give the children is a knowledge of where to look for the answers to questions and an ambition to look things up for themselves. A plentiful supply of bulletins will help you in this work.

As for insects, you will find plenty of literature on the Hessian-fly (which by the way, probably had no more to do with the Hessians than do you and I, but was named probably at or shortly after the time when these mercenaries of Great Britain were laying waste the country. The ravages of the insect were so terrible that the people seemed certain that none but the Hessians could have been responsible for its introduction.) Then there is the cut-worm, the army worm, potato beetle, blister beetle, and "grasshopper" or locusts. It is estimated that insects cost North Dakota farmers six million dollars or about three times as much as is spent for salaries to rural school teachers in the state. Don't you think that the ravages of



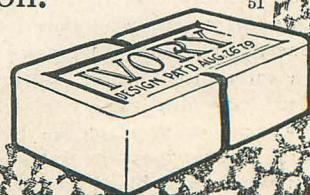
THIS is the time of year when one must be extremely careful to keep the hands and face from chapping.

Since careless washing before going outdoors usually is the beginning of the trouble, the best preventive is the following:

Use Ivory Soap, rinse with cold water, dry thoroughly.

Ivory is the safe soap because it contains nothing to irritate the skin. It merely cleanses perfectly, leaving the skin in the healthiest possible condition.

IVORY SOAP
99 ⁴⁴/₁₀₀ % PURE



insects should be more closely studied and better care taken to keep their numbers down?

Now as to the remedies for plant diseases and insects. Of course, you know of the formaldehyde treatment for smut. Most of our farmers treat their grain but I am wondering if they realize that there is also some danger of loss in the process. It has been shown that if the seed is treated with too strong a solution or if it is left too long before seeding the germination will be lessened, and the stand thereby decreased. It would be a very interesting little exercise to test different batches of seed treated with different strengths of the solution and kept for different periods before seeding. This testing may be done in the pie plate testers or in the rag baby tester as you please.

Probably the best single preventative for disease, insect, and weed losses as well, is a good rotation. In it, one would have an inter-tilled crop, like corn or potatoes; a crop for supplying vegetable matter and nitrogen to the soil, for example, legumes and perennial forage crops; and one, two, or three years of small grains for cash or feed crops. In the inter-tilled crop the cultivation will kill weeds and will so aerate the soil that it will be pretty well purified of plant disease germs. The small grains will be sowed on the corn land for two or three years but not long enough for any particular enemy to become very dangerous. Then the land is seeded to a legume which not only supplies nitrogen, but, being different botanically from the grasses, will naturally be the host of a different lot of diseases and insects. But the ones which had lived on the grasses either have to move out or die, and the ones which naturally live on the legume won't get a good start until it is time to plow up the sod for corn again. Fall plowing is another excellent means of destroying insects. In this way, the nests in which the insects deposited their eggs are turned up, broken, and exposed to the weather for the most severe season of the year. Then, too, it is wise to burn all stubble and grass or weeds in fence corners or other waste places which could afford a winter refuge to plant diseases or insects.

In the eighth grade class, you are expected to study dairying in January. While a close study of the subject would demand a much longer time, it is possible to get much good from a month spent upon it. For your own benefit you should ask the directors to buy for your school library two books; one an elementary text on dairying which is very good



Why They Look for the RED BALL

That Red Ball on Rubber Footwear stands for long wear and good service. It means tough, properly treated rubber.

Figure the cost of rubber footwear on the cost per day's wear and you will see why "Ball-Band" gives most wear for the money.

"BALL-BAND"

Over 50,000 stores sell "Ball-Band" Rubber Footwear. Every one of these merchants will tell you that when you buy "Ball-Band" you get footwear at the lowest cost per day's wear.

Look for that Red Ball; it's a sign of Quality, whether it's on the footwear or in the window of a store.

If no store near you sells "Ball-Band," write us and give your merchant's name. We will see that you are fitted. Write anyway for

FREE Booklet—"More Days Wear"

It tells you how to treat good rubber footwear so as to get the most out of it.

MISHAWAKA WOOLEN MFG. CO.
324 Water Street Mishawaka, Ind.
"The House That Pays Millions for Quality"



"Ball-Band" Arctics are made with one, two and four buckles. The Red Ball is on the sole. Look for it. The tops are best cashmerette.

The "Ball-Band" Coon Tail Knit Boot is knit, not felt, insuring the utmost wear and service. The patented snow excluder keeps out snow and dirt. Heavy gum overs to fit. This boot is completely shrunk. Can be washed when dirty.



for beginning work, "Dairy Farming" costing \$1.00 and published by the author, John Michels, Wauwatosa, Wis. The other book will be a wonderfully fine help in teaching about livestock of any kind. It is a cloth bound book of pictures of the prize winning animals which have been exhibited at the International Livestock Exposition. Send 50 cents to Secretary B. H. Heide, International Livestock Exposition, Union Stock Yards, Chicago, for the "Album of International Champions."

The school should also purchase a small Babcock tester. Then by getting the children interested in its use, you may be able to test the milk given by the cows in the neighborhood. You see the principal question in dairying, as it is in all farm work, is whether any particular cow or project pays a dividend on the money and labor invested. If a cow does not give enough milk of sufficiently high quality to pay for her feed, care, and the interest on the money she would bring if sold to the butcher, she had better be gotten rid of at the first opportunity. Such drones are simply eating up the profits of the business. The only way to tell whether or not a cow is making her living, is to weigh her milk for a whole lactation period, then by testing for butterfat by means of the Babcock tester, one can figure out the income from the cow, from the price of butterfat at the home market. If this amount is no more than the cost of her feed, care and interest on investment, she is an unprofitable cow and should be gotten rid of, and a profitable animal bought in her place. A better cow will cost more, will demand better care, and will eat more, but it is easy to see that she will be eminently more profitable than one that eats less, simply because the extra feed is turned into milk. It is calculated that any two 900 pound cows will demand the same amount of food to maintain their bodies; that is an expense you cannot get away from and one from which you get no profit. Now if the poorer cow gives enough milk to exactly pay for her board and keep, she is neither a profit nor a loss. But if you can feed the better cow more grain and hay and thereby get a greater quantity of milk, this extra milk given will be almost clear gain. Now study this out and devise a way to present this important fact to your pupils.

It will, I fear, be necessary for you to emphasize the importance of scrupulous cleanliness in all dairy operations. Almost any one prefers good dairy butter, but most of that sold at the store by farmers' wives is

distasteful on account of the action of various bacteria which were not kept out of the products. These bacteria cause milk to become sour, bitter, or slimy or ropy and makes the cream and butter rancid. Of course the

proper "remedy" is prevention. By carefully straining the milk thru a cloth (not wire) strainer, scalding the utensils and exposing them to the open air and the sunlight, the minimum of bacteria will get into the milk.

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North Dakota Farmer .50	} All Three \$2.20 To One Address
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Everybody's Frederick Palmer's exclusive monthly résumé of the war—Owen Johnson's brilliant new novel of New York life—The first plays by George Bernard Shaw ever published in an American magazine—Mary Roberts Rinehart's new mystery novel—Articles by William Hard and Hugh Black, etc.—the best 15-cent magazine in the country—this is *Everybody's*, one magazine that "Never Has Printed—And Never Will Print—Tainted Fiction."

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Lisbon, North Dakota

Order Now—Today!

Now I hope that I have been of some small assistance to you this month. Please let me help you when I can.

Yours very truly,
MERRITT N. POPE.

FROM OUR READERS

North Dakota Farmer:

The two articles in October North Dakota Farmer entitled "Making Food Poisoning a Crime in North Dakota," copied from the North Dakota Standard, and "Moisture Conservation" by J. S. Murphy, are worth many times a year's subscription price of the North Dakota Farmer. That the "big interests" have been and are still after Professor Ladd will scarcely be questioned, and that there is abundant rainfall, on the average, for continuous good crops is equally apparent.

A Friend.

North Dakota Farmer:

On page 13 of your November issue we notice your write-up on "Prevention of Hog Cholera." We are always interested in anything that will help the North Dakota farmers.

Our attention was called some weeks ago to Sulphate of Iron for farm sanitation. We are enclosing a circular gotten up by the American Steel & Wire Co. which we believe will interest you. We have also written to the parties they give as reference on the last page and without exception we get a very satisfactory report from people who have handled this.

It seems to have given splendid satisfaction.

Yours very truly,
The Salzer Lumber Company.

North Dakota Farmer:

In order to correct a highly erroneous impression that conscription is carried on in Canada, that compulsory military service is employed, and that there is restraint as to the movement of those not Canadians, the necessity is felt of giving as much publicity as possible to a denial of these state-

ments. One item to which special exception is taken says:

"They are sending them away as rapidly as possible; but the young men are not permitted to leave Canada. All the citizens and those who have taken up homesteads are subject to military duty."

In direct refutation of this, I beg to quote from a recent editorial in the Rochester, N. Y., Herald:

"There is no legal process by which Great Britain can command a single Canadian soldier to enter the field in her aid or even in her most needful defense. Great Britain can not legally take a dollar of Canada's money for this or any other war without Canada's consent. All must be given voluntarily, if it be given at all. Yet men and dollars are given to the limit of Canada's power to give, just as if Great Britain had both physical and legal power to exact them. Indeed, it is possible that they are given more freely in this way for what a man gives because he wants to give is likely to be greater than what he gives under force."

"All in all, it is a noble picture of devotion to her motherland which Canada offers to the gaze of her admiring and unenvious neighbors."

W. D. SCOTT,
Ottawa, Can.

North Dakota Farmer:

Our Lake Region Mid-Winter Fair will be held in this city, Jan. 26-27-28 and I would like to have you make

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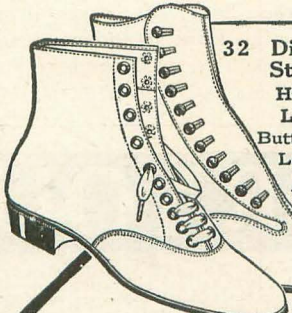
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These wonderful shoes afford positive relief for aching, tired, sensitive, itching, burning feet. Martha Washington Comfort Shoes will give you genuine comfort and a perfect fit.

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We make Honorbilt shoes in all styles for men, women and children; Dry Sox wet weather shoes; Yerma Cushion Shoes.

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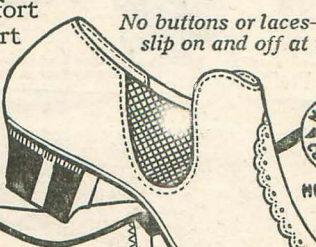
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FOR ONE DOLLAR

California will hold next year two great universal Expositions, one at San Francisco and the other at San Diego, in celebration of the completion of the Panama Canal and the joining of the Atlantic and Pacific Oceans.

To supply the demand for reliable and authentic information on California and these two Expositions, we have published two guide books; one on San Francisco, the Exposition and Northern California; the other on Los Angeles, San Diego, the Exposition and Southern California, also a lithographed view of San Francisco in colors (size 30x45 inches) a picture of the rebuilt city, including the Exposition. Each book is 6x9 inches, contains 150 pages and beautiful illustrations.

These two books and view give a comprehensive, honest history and description of the State, her principal cities, resources and her two great Expositions. Sent postpaid for a one dollar bill, money order, draft or check. North American Press Association, 1445 Hearst Building, San Francisco

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Martha Washington

HONORBILT

mention of it under that head in your publication.

Yours

Herman Stenseth, Sec.

Chas. Pillsbury, Pres.
Devils Lake, N. D.

SCHOOL CHILDREN'S INDUSTRIAL CONTEST

The Bowman County School Children's Industrial Contest was held November 20. Mr. Saxvig, the County Superintendent, had sent out seed corn to the boys and girls that wanted to enter the contest. This seed corn was Minn. No. 23 furnished by the Experiment Station. This corn has been tried out before and found very satisfactory. Both boys and girls sent in exhibits of ten ears each from their corn patches. The boys' and girls' corn was judged separately.

In the girls' contest, the winners were as follows: first, May Hughes, Marmarth; second, Hazel Opegaard, Buffalo Springs; third, Clara Nygaard, Amor.

The winners in the boys' contest were: first, Oscar Myhre, Griffin; second, Henry Schaaf, Amor; third, Fred Hatch, Buffalo Springs.

A sewing contest was also held at the same time. Each entry consisted of four pieces. A great deal of work had been put on many of the entries. One entry included a piece of Hardanger. The contest was divided in two parts; first for girls 13 to 16; and second, for girls under 13. The awards to the girls of 13 to 16 were as follows: first, Elmida Fuls, Marmarth; second, Maude Opegaard, Buffalo Springs; and third, Gertrude Kulaas, Marmarth. The prizes to

the girls under 13 were: first, Mavis Norem, Rhame; second Hattie Norem, Rhame; and third, to Jessie Ash, Marmarth. The winners were all awarded good substantial prizes.

After the corn and sewing had been judged, a meeting was held. The high school glee club rendered several selections. Talks were given by Mr. Palmer of the North Dakota Experiment Station and T. E. Mills, the County Agent. Superintendent Saxvig presided. The meeting closed with a free moving picture show.

GALESBURG FARMERS' CLUB MEETING

The Galesburg Farmers' Club is one of the live ones. The meetings are held at the homes of the different members. The meeting on December 4th was held at the home of H. P. Smith who lives two miles south of town. The evening was almost perfect, warm, moonlit and the roads good. The farmers gathered in from many miles. There were about 150 present. This was the annual meeting so officers had to be elected. This election resulted as follows: President, George Rutherford; Vice President, Miss Annie Dixon; Secretary, Anna Myckland; Treasurer, John Moe.

A program was rendered as follows: an address by Ed. Moe, a banker at Galesburg. He developed the idea that the farmer is a link in the chain of the agricultural industry, that transportation, finance, manufacturing and merchandising are other links. The development that has taken place in the last 300 years has changed farming from an independent industry to one that is dependent on these others for its successful main-

tenance. He contended that as the club was for the purpose of developing cooperation that this cooperation should be allowed to extend to these other groups.

Magdalen Severson rendered a very pleasing song.

The Editor of the North Dakota Experiment Station gave a talk on Marketing. He contended that the

Farmers, Notice!

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LAKE SUPERIOR HERRING
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Money-order with order. Our fish are guaranteed. Special prices on large lots. Our reference: U. S. National Bank, City.

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A Handsome Table Set, Violet, Daisy or Wild Rose design, consisting of one Center-piece with Four Doilies to match, stamped on fine quality ART LINEN one-half yard long, all for 10 cents. Catalog free.

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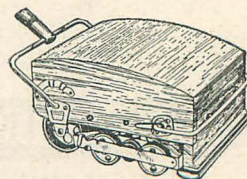
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Please send prepaid one Torrington Regent Vacuum Cleaner as per your special 10 day free trial offer. This places me under no obligation to buy.
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That's the money you should get this year. I mean it. I want County Sales Managers quick, men or women who believe in the square deal, who will go into partnership with me. No experience needed. My folding Bath Tub has taken the country by storm. Solves the bathing problem. No plumbing, no water works required. Full length bath in any room. Folds in small roll, handy as an umbrella. I tell you it's great! GREAT! Rivals \$10 bath room. Now listen! I want YOU to handle your county. I'll furnish demonstrating tub on liberal plan. I'm positive—absolutely certain—you can get bigger money in a week with me than you ever made in a month before. I KNOW IT!

Two Sales a Day— \$300.00 a Month

That's what you should get—every month. Needed in every home, badly wanted, eagerly bought. Modern bathing facilities for all the people. Take the orders right and left. Quick sales, immense profits. Look at these men—Smith, Ohio, got 13 orders first week; Meyers, Wis., \$230 profit first month; Newton, California, \$60 in three days. You should do as well. 2 SALES A DAY MEANS \$300 A MONTH. The work is very easy, pleasant, permanent, fascinating. It means a business of your own.

Little capital needed. I grant credit—help you out—back you up—Don't doubt—Don't hesitate—Don't hold back—You cannot lose. My other men are building houses, bank accounts, so can you. Act then quick, SEND NO MONEY. Just name on penny post card for free tub offer. Hustle!

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100% Profit.

Demonstrating
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problem of marketing started in the production of a thing, that the members of the community should get together and plan on producing a good deal of one thing and that of a superior quality. He said that in poultry all should raise the same kind and take special care that the eggs are kept clean and marketed perfectly fresh. This will soon establish the reputation of the place for eggs and the market will look for the eggs from Galesburg and will be willing to pay more for them as the work of sorting, etc., will already have been done and the product will be better than can possibly be produced from the common run of eggs no matter how much work of sorting is put on them. He said that the same thing applied in the raising of livestock of any kind, in the production of potatoes or whatever the community wants to do. The farmers' club makes a good place to start this kind of cooperation in producing which will in a big measure solve the problem of marketing. The foundation must be producing things of quality that are in demand and then producing in suffi-

cient quantities to attract the market, or to market to advantage.

Severt Severson gave a violin solo which was so well received that he had to play an encore.

Annie Dixon read a paper on "The Seasons."

Anna Severson gave a recitation, "Don't Know What My Name Is".

Andrew Severson gave a talk on Marketing, telling of accompanying a car of grain to the market and what became of it.

Refreshments were then served which were followed by games played by the young people, while the elders talked.

Mr. Smith has a large house or he would not have been able to take care of the crowd. He has put in an electric light plant which is working fine. He has the barn lighted as well as the house. Lights have also been put in the yard. These can be turned on at the house. This system of lighting proves a great convenience as well as a safe system.

The meetings are held every other week. The next one will be held at the home of Otto Bratholt.

salt, one cup raisins or dates or figs. Steam two and one-half hours. Serve with lemon sauce.

Gingerbread Pudding

One cup molasses, one teaspoon soda, one tablespoon lard or butter, salt, beat all together; then pour on one-half cup warm water, two cups flour. Bake and serve with whipped cream.

Beef Loaf with Tomato Sauce

Put three pounds of beef and a very little salt pork thru the meat chopper; add salt, pepper, three eggs and three soda crackers rolled fine. Form into a loaf and place in roasting pan, pouring over it three cupfuls of stewed tomatoes that have been put thru a ricer. Baste while baking, and when done thicken sauce for gravy.

Worth Knowing

How many know that a tablespoonful of vinegar put in the lard when the fat is set over the fire will prevent doughnuts from soaking fat?

To Fry Doughnuts

When frying doughnuts, if you will have a pan of boiling water at hand and dip each doughnut into this as it is lifted from the fat, taking it out immediately, every particle of grease will be removed and the cakes will be moist and nicer in every way than when simply taken from the hot lard.

How to Remove Putty

To remove old putty with little work and trouble, pass a hot soldering iron, over it. This softens it and it is easily removed.

Seasonable Receipts

Edited by Mrs. Sadie Baird.

Popcorn Balls

Pop the corn, remove all hard and unpopped kernels and pour the corn into a deep dish. A few nuts may be added if desired. Boil together till the sirup cracks in cold water, 1 cup of molasses, 2 cups of sugar, 1 tablespoon of butter and 2 tablespoons of vinegar. Take the sirup from fire, add one-half teaspoon of soda, beat very slightly and pour over the corn, forming into balls, or leaving in a mass to be broken later as for cracker-jack.

Butter Scotch

Take one and one-half cups of dark brown sugar, one cup of granulated sugar, 1 cup of corn sirup, 1 cup of cream or rich milk and 2 tablespoons of butter. Boil till the sirup strings, remove from the stove and pour into buttered plates to cool.

Fudge

Two cups of granulated sugar, 1 cup of rich milk, 1 teaspoon of butter and 4 tablespoons of cocoa. Boil till the sirup forms a soft ball in cold water, then remove from the fire, set the saucepan in cold water and beat the candy till thick.

Cottage Pie

Butter a baking-dish, put in a thin layer of mashed potato; add a thick layer of cold roast beef, cut in thin

slices; sprinkle with salt and pepper and moisten it with meat gravy. Put a thin layer of mashed potato on top; cover it, and bake in quick oven long enough to heat it thru, then remove the cover and brown the potatoes.

Bohemian Pork Balls

Two cups of fresh pork chopped fine, one-half cup of cracker crumbs, one egg, salt and pepper. Mix into balls; dip in egg and roll in cracker crumbs and fry brown.

Fried Cakes

Two cups sugar, one cup sour cream, two cups buttermilk, three eggs, two teaspoons soda, one-half teaspoon nutmeg, salt. Four to roll.

Mock Whipped Cream

Peel and grate a large apple. Add to it one cup of sugar and the beaten white of an egg. Beat with a silver fork till light and puffy. Flavor with a few drops of almond.

Chocolate Filling for Cake

Three tablespoons cocoa, two tablespoons cream, six tablespoons sugar, one tablespoon butter. Simmer on the back of stove till it forms a soft ball in cold water.

Graham Pudding

One-fourth cup butter, one-half cup molasses, one-half cup milk, one egg, one and one-half cup graham flour, one-half teaspoon soda, one teaspoon

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COCOA

Possesses All Three



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It is absolutely pure, it is of high quality, and its flavor is delicious.

Guard against imitations. The genuine has the trade-mark on the package and is made only by

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Why "Mound City" House Paint **HOLDS** Its Gloss

WHY do you see so many dull,
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The trouble with such houses is that they are Oil-hungry. They are painted with a paint that has not enough Linseed Oil in it—a paint that never *could* have enough Oil in it on account of the character of the pigments used.

The best Paint *must* do two things. It must preserve and beautify. Do you know that Linseed Oil is *the* great preservative in Paint and that if it were not for the sake of appearance, you could give your house a coat of pure Linseed Oil, and it would be protected?

The solid part of Paint (Strictly Pure White Lead, Strictly Pure Zinc, and, in some Paints, baser metals) acts as beautifier only.

Strictly Pure Zinc absorbs more Oil than any other pigment and that is the reason for its use in Horse Shoe Paint. WHITE LEAD is used for its covering qualities, and ZINC for its *Oil-carrying* capacity.

And Oil-carrying capacity is what your Paint *must have* if your property is to be protected.

Horse Shoe Paint, while it covers and beautifies the surface thoroughly, is made of pigments that carry so much oil, that the *first* coat satisfies the oil-hunger of the wood leaving the second coat to gloss, harden, protect, and beautify.

That's why Mound City Horse Shoe Brand House Paint **HOLDS** its gloss.

Mound City Paint & Color Co.

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